

Amendments to the Drawings

A corrected Fig. 43 is enclosed.

REMARKS/ARGUMENTS

In response to the Examiner's first Office Action of November 7, 2005 the Applicant respectfully submits the accompanying Amendment to the drawings and claims, and the below Remarks directed thereto.

Regarding Amendment

In the Amendment:

page 4, line 3, page 13, line 3, page 14, line 22, page 17, lines 9 and 37 and page 22, line 1 of the present specification are amended to omit reference to Fig. 17C;

Fig. 43 is amended to include the reference sign "500", as is described at page 9, lines 8-11 of the present specification;

independent claim 1 is amended to clarify that at least two fluid distribution members are provided, each for one of the printhead integrated circuits, to recite that the fluid distribution and support members are attached by curable resin adhesive which is selectively deposited about the fluid delivery channels of the support member and associated apertures of the fluid distribution members, and that the method comprises the step of curing the resin adhesive to seal the selective attachment. Support for this amendment can be found at page 6, lines 28-34, page 7, line 34-page 8, line 15 and page 8, line 36-page 9, line 7 of the present specification;

dependent claim 2 is amended to conform with amended claim 1;

dependent claim 3 is cancelled in conformance with amended claim 1;

dependent claim 4 is amended to depend from claim 1 and to recite that the curable resin is an epoxy resin. Support for this amendment can be found, for example, at page 8, line 36-page 9, line 2 of the present specification;

dependent claim 5 is amended to conform with amended claim 1 and to depend therefrom; and

dependent claim 6 is amended to conform with amended claim 1 and to correctly depend from claim 5.

It is respectfully submitted that the above amendments do not add new matter to the present application.

Regarding Drawing Objections

It is respectfully submitted that the above-described amendment to Fig. 43 to insert the reference sign "500", provides the correction required by the Examiner.

Regarding Claim Objections

Regarding "fluid distribution member"

It is respectfully submitted that the above-described amendments to claims 1, 2, 5 and 6 to clarify that at least two fluid distribution members are provided, each for one of the printhead integrated circuits, provides the correction required by the Examiner, as this clarifies that the claimed fluid distribution members refer to the disclosed fluid distribution stacks 500 (see page 6, lines 28-34, page 7, line 34-page 8, line 15 and page 8, line 36-page 9, line 7 of the present specification).

Regarding "the curable resin"

It is respectfully submitted that the above-described amendments to claims 4 and 5 to depend from claim 1, which recites a curable resin, provides sufficient antecedent basis for this term in the claims.

Regarding "the apertures"

It is respectfully submitted that the above-described amendment to claim 6 to depend from claim 5, which introduces the apertures of the support member, provides sufficient antecedent basis for this term in the claim.

Regarding 35 USC 103(a) Rejections

It is respectfully submitted that the subject matter of amended independent claim 1, and claims 2 and 4-6 dependent therefrom, is not taught or suggested by Silverbrook et al. (WO 01/042026) either taken alone or in combination with any one or more of Spivey (US 6,190,002), Patil et al. (US 6,830,646) and Hillier (US 3,477,867), for at least the following reasons.

In the present invention, the fluid channel member 40 and printhead tiles 50, which each incorporate a fluid distribution stack 500 carrying a printhead integrated circuit 51, are attached and sealed together using the one adhesive material. This is done by selectively depositing a curable resin adhesive, such as epoxy resin. In this way, the outlet ports 42 of

the fluid channel member 40 can be aligned and individually sealed with the corresponding inlet ports 54 of the printhead tiles 50 in the one deposition step, thereby simplifying the manufacture of the printhead assembly (see page 6, lines 28-34, page 7, line 34-page 8, line 15 and page 8, line 36-page 9, line 7 of the present specification).

On the other hand, as the Examiner admits, Silverbrook does not teach or suggest attaching the printhead chips 18 to the micromolding 26 of each printhead module with an adhesive material (see page 3, lines 15-26 of Silverbrook).

Spivey merely discloses an arrangement is an assembly of printheads 42,46,50,54 and associated semiconductor chips 55 (which corresponds to the claimed fluid distribution members carrying the printhead integrated circuits) are attached to the pen body 58 (which corresponds to the claimed support member) using epoxy adhesive 66 which is cured to secure the attachment (see col. 5, lines 1-3 and col. 6, lines 7-17 of Spivey). Spivey does not teach or suggest selectively arranging the adhesive so that its curing provides sealed attachment of individual fluid inlets of the printheads and fluid outlets of the pen body, as is required by amended claim 1.

Patil merely discloses an arrangement in which the nozzle plate/chip assembly 28/10 (which corresponds to the claimed fluid distribution members carrying the printhead integrated circuits) is attached to the cartridge body 44 (which corresponds to the claimed support member) with die bond adhesive which is only provided around the edges of the chip 10 to seal the entire chip (see col. 12, lines 5-34). Thus, Patil does not teach or suggest selectively arranging the adhesive so that its curing provides sealed attachment of individual fluid inlets of the nozzle plate/chip assembly and fluid outlets of the cartridge body, as is required by amended claim 1.

Hillier merely discloses manufacturing gaskets from annular layers 3 of rubber sealing material by curing the layers on a gasket assembly including a support member 1 having apertures 2 (see col. 2, lines 4-14 and 52-71 of Hillier). Hillier does not teach or suggest that the material layers be used as an adhesive to adhere two components together before curing, rather Hillier specifically discloses that attachment is done provided by bolts passed through bolt holes 4 in the gasket assembly (see col. 2, lines 59-63 of Hillier). Thus,

Hillier does not teach or suggest selectively arranging curable resin adhesive so that its curing provides sealed attachment of two components, as is required by amended claim 1.

Therefore, no combination of the cited references would result in a method of assembling a printhead module in which curable resin adhesive is selectively deposited about fluid delivery channels of a support member and associated aperture of fluid distribution members which lead to nozzles of printhead integrated circuits to attach the support and fluid distribution members and is cured to seal the selective attachment.

Thus, the subject matter of amended independent claim 1, and claims 2 and 4-6 dependent therefrom, is not disclosed or suggested by Silverbrook either taken alone or in combination with any one or more of Spivey, Patil and Hillier.

It is respectfully submitted that all of the Examiner's objections and rejections have been traversed. Accordingly, it is submitted that the present application is in condition for allowance and reconsideration of the present application is respectfully requested.

Very respectfully,

Applicants:



KIA SILVERBROOK



AKIRA NAKAZAWA

C/o: Silverbrook Research Pty Ltd
393 Darling Street
Balmain NSW 2041, Australia

Email: kia.silverbrook@silverbrookresearch.com

Telephone: +612 9818 6633

Facsimile: +61 2 9555 7762